

Appln. No. 10/614,146
Response to Final Rejection dated January 18, 2006
Reply to Office Action of November 10, 2005

REMARKS/ARGUMENTS

Amendments to the Claims

Claims 1, 2, 3, 4, 6 and 12 are amended to correct obvious typographical errors, i.e., use of "plastic" instead of "plastics". The amendments to Claims 1-4, 6 and 12 correct typographical errors and do not result in the need for further examination, therefore entry is proper after Final Rejection.

Claim 8 is cancelled in view of the fact that the limitation of Claim 8 is now contained in Claim 1. This amendment is proper after Final Rejection in that it simply cancels a claim.

35 USC§112 Rejection

Claim 8 was rejected under 35 USC§112, second paragraph because it was not clear how it further limited Claim 1. In view of the amendment presented hereinbefore cancelling Claim 8, this ground for rejection is therefore obviated.

35 USC§103 Rejections

Claims 1, 4-5, 7-10, 12 and 15-19 are rejected under 35 USC§103(a) as being unpatentable over Carpenter, U.S. Patent 5,154,462 (hereinafter Carpenter) in view of Pocius, U.S. Patent 5,686,544 (hereinafter Pocius) and Sonnenschein et al., U.S. Publication 2002/0058764A1, now U.S. Patent 6,730,759B2 (hereinafter Sonnenschein). Claims 2, 3 and 6 are rejected under 35 USC§103(a) as being unpatentable over the references described hereinbefore as applied to Claim 1 and in further view of Admitted Prior Art. Applicants traverse these rejections for the reasons stated hereinafter and respectfully request withdrawal of the Final Rejection. For brevity sake, both rejections will be argued at the same time.

Argument 35 USC§103(a) Rejection

The primary reference Carpenter fails to disclose a method for producing an automobile assembly wherein a structural member is made of a molded plastic material having a low energy surface, applying an adhesive to an unprimed and untreated complementary surface of the structural member and/or reinforcing member, and that the adhesive comprises an organoborane/amine complex, one or more compounds having an olefinic unsaturation and a compound which causes the complex to disassociate. The Final

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Rejection cites Sonnenschein and Pocius as disclosing an organoborane/amine complex initiated olefinic containing adhesives and that such adhesives bond to low surface energy materials without the need for priming. Further, with respect to Claims 2, 3 and 6, the Final Rejection further cites Admitted Prior Art. Applicants assume this is the prior art discussed

~~in the background of the invention for the proposition that a bumper system component may~~
be comprised of glass filled polypropylene. First, Applicants have reviewed the disclosures contained in the specification relative to Admitted Prior Art and it does not disclose that bumper systems may be prepared from glass filled polypropylene. Therefore, any rejection based on this assumption must be withdrawn because insufficient evidence has been presented in the Final Rejection to support this proposition. In order to establish a proper case of *prima facie* obviousness, the Final Rejection must cite a reference which discloses this feature and point out where in the reference this feature is disclosed. Since no specific reference teaching this feature is cited, no case of *prima facie* obviousness is made out and this rejection must be withdrawn.

The two significant deficiencies in the Final Rejection are first the Final Rejection does not cite a reference which suggests that a low energy surface material, such as a glass filled polypropylene, can be used for the impact absorbing part of the bumper described in Carpenter. The second issue is that the Final Rejection fails to establish a reasonable expectation of success with respect to the ability to use organoborane/amine complex initiated olefin containing polymer based adhesives to bond a structural member of an automotive assembly to a reinforcing member of an automotive assembly. More particularly, there is no suggestion in any of the references cited that such adhesives have the necessary properties to be used in manufacturing such assemblies.

Carpenter discloses a method of making a crossmember bumper beam that can be attached to the frame rails of a vehicle with the beam being made of two dissimilar materials that are bonded together with an adhesive. More particularly, that the structural crossmember will be made of a strong rigid material which is attached to the vehicle in early stages of vehicle assembly while the impact absorbing part of the bumper is made of less expensive and lighter materials attached to the vehicle near the end of the assembly process. See column 2, lines 37-49. The material for the second component is disclosed as a material which is less expensive and weighs less than steel, included are aluminum and light metals and potentially non-metallic materials. Preferred non-metallic materials are disclosed as being fiberglass reinforced plastics.

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Carpenter does not disclose what the matrix material can be for the fiber reinforced plastic. Nor is there a suggestion in Carpenter that it can be a matrix material which comprises a low surface energy material. The description of Admitted Prior Art contained in Applicants' specification does not disclose that such a part can comprise a low energy surface material. The Final Rejection concludes it will be obvious to use a low energy surface material or polypropylene as the matrix resin for the fiber reinforced plastic but provides no evidence to support this conclusion. This conclusion is critical to the logic of the Rejection. Absent evidence to suggest using such materials in this application, no case of *prima facie* obviousness is made out and this rejection must be withdrawn.

Applicants suggest that Carpenter teaches away from the use of low energy surface materials or polypropylene as the matrix for the fiber reinforced plastic. First, fiber reinforced plastics made from high energy matrices are well known. Such high energy matrices include epoxy resins, polyesters, polyacrylates and the like. Carpenter discloses the use of epoxy and polyurethane adhesives as desirable adhesives for the use. See column 5, lines 4-6. It is well known that epoxy and polyurethane adhesives bond well to high energy surfaces. Thus, one skilled in the art reading Carpenter would be motivated to use a composite containing a high energy surface material as the matrix resin for the fiber reinforced plastic. Thus, one skilled in art would not consider based on the teachings of Carpenter the use of a low energy surface material as matrix resin for the structural member. As the Final Rejection has not shown where the Admitted Prior Art described in the Background of Invention discloses that such materials can be used for such parts, the Final Rejection does not present any evidence that one skilled in the art would use such materials in an assembly as claimed by Applicants and therefore no case of *prima facie* obviousness is made out. Furthermore, it should be noted that the Final Rejection admits that Carpenter is silent as to whether a primed or unprimed surface may be used in the assembly disclosed therein. In view of the previous discussion, one skilled in the art would assume that an unprimed surface of a high energy surface material would have been used and that Carpenter teaches away from Applicants' claimed invention.

Furthermore, because no motivation has been established to use low energy surface materials in the claimed assemblies, there is no reason why a skilled artisan would select adhesives as described in Sonnenschein or Pocius for use in this application. As pointed out in previous responses to Official Actions, there are large numbers of adhesives that the skilled artisan could select from. The Final Rejection has provided no reason why

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one skilled in the art would choose these particular adhesives. The Final Rejection argues that it would be obvious to use a low energy surface material for components in Carpenter and if it is obvious to use those components, it would therefore also be obvious to use adhesives as described in Pocius or Sonnenschein. The fault in this logic is there is no evidence that one skilled in the art would in fact use those low energy surface materials and because of that no case of *prima facie* obviousness is made out.

Even if a skilled artisan would consider using the adhesives as described in Sonnenschein or Pocius, the skilled artisan would clearly question if such adhesives have the proper properties for such applications. See the specification, page 4, lines 5-9 in which it is disclosed that adhesives which may be used in this application are ones that need to withstand impact and high stresses and strains. See page 16, lines 1-7 of the specification wherein it is further disclosed that the assembly and therefore the adhesive must be able to withstand exposure to heat at a temperature of 100°C and suitably up to 120°C or more. Further, it is disclosed that such an assembly including the adhesive must be able to withstand loads applied during production and also imposed in use, including applications of loads and vibration and fatigue stress. There is no teaching in either Sonnenschein or Pocius or any other reference that the adhesives disclosed in Sonnenschein or Pocius could be used in such an environment as there is no disclosure in these references that such an adhesive could be used in such an environment; there is no expectation of success. At best one could argue that it would be obvious to try such materials. Furthermore, the Final Rejection states that it would be obvious to use the adhesives disclosed in Sonnenschein because Sonnenschein discloses that the adhesives may be used in bonding automotive parts. There are a variety of parts which must be affixed to a vehicle. Included in those parts are interior trim, headliners and the like. In such applications, the requirements of the adhesives are very different than the requirements for adhesives used to bond a structural part to a reinforcing part as the stresses applied are different in the different applications. Sonnenschein does not disclose which automotive applications the adhesive may be useful for and certainly there is no disclosure in Sonnenschein or Pocius that such adhesives can be used to bond a structural part to a reinforcing part. To establish a case of *prima facie* obviousness, the Final Rejection must establish an expectation of success. Because there is no teaching or suggestion in any of the references that adhesives as disclosed in Sonnenschein or Pocius have the properties necessary for the structure made as a result of the claimed method, there is no expectation of success established and no case of *prima facie* evidence is made out.

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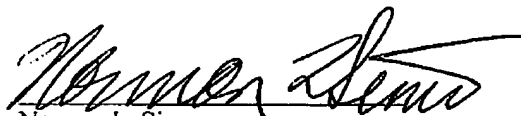
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The Final Rejection states that the term "low energy surface" is subjective. Applicants respectfully point out that this is an incorrect statement in fact that "low energy surface" is a well known feature. First, the specification clearly defines a low energy surface, see page 10, lines 3-5. See, also, Sonnenschein at column 14, lines 25-43, referring to U.S. Patent 6,750,753 B2. See, also, Records, column 13, lines 1-10. Therefore, one skilled in the art clearly understands what is meant by a low energy surface.

The Examiner also argues that the arguments presented in the previous response were not commensurate with independent Claims 1 and 12. This relates to the argument that one skilled in the art would not be motivated to use a low energy surface plastic. The Final Rejection states that the argument is not commensurate with the claims as the argument referred to fiber reinforced polypropylene as an example of a low energy surface material. That argument was meant to discuss low energy materials generally using the polypropylene as the matrix resin as an example. It was not intended to limit Claims 1 and 12 to polypropylene. The argument referred to low energy surface materials generally with an example of polypropylene and therefore was in fact commensurate in scope with the claims.

Applicants hereby assert that no case of *prima facie* obviousness is made out and respectfully request that the Final Rejection be withdrawn and solicit allowance of the claims.

Respectfully submitted,



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